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1 "One sugar cube, please" or selection strategies in the Buchi Alessandro Giovini, Teo Mora, Gianfranco Niesi, Lorenzo Robbiano, Carlo Traverso June 1991 Proceedings of the 1991 international symposium on Symbolic and algebraic manipulation

Full text available:  pdf(669.73 KB)

Additional Information: full citation, references, citations, index

2 Advances in homotopic layout compaction

S. Gao, M. Kaufmann, F. M. Maley

March 1989 Proceedings of the first annual ACM symposium on Parallel algorithms

Full text available:  pdf(1.26 MB)

Additional Information: full citation, index terms

3 Memoing for logic programs

David S. Warren

March 1992 Communications of the ACM, Volume 35 Issue 3

Full text available:  pdf(4.05 MB) Additional Information: full citation, references, citations, index terms

Keywords: OLDT

4 Tools and transformations—rigorous and otherwise—for practical

Arnon Rosenthal, David Reiner

June 1994

ACM Transactions on Database Systems (TODS), Volume 19 Issue

Full text available:  pdf(3.19 MB)

Additional Information: full citation, abstract, references, citation

We describe the tools and theory of a comprehensive system for database design that support multiple conceptual and logical design processes. The Database Design system uses a rigorous, information-content-preserving approach to schema translation, heuristics, guess work, and user interactions. The main contribution lies in illustrating the practical system, and how the consistency ...

Keywords: applications of database theory, computer-aided software engineering, design, database equivalence, design heuristics, entity-relationship model, he

5 Partial redundancy elimination in SSA form

Robert Kennedy, Sun Chan, Shin-Ming Liu, Raymond Lo, Peng Tu, Fred Chow

May 1999 ACM Transactions on Programming Languages and Systems (TOPLAS)

Full text available:  pdf(704.71 KB)

Additional Information: full citation, abstract, references

The SSAPRE algorithm for performing partial redundancy elimination based on the SSA form is presented. The algorithm is formulated based on a new conceptual framework, the factored representation of redundancy, and represents the first sparse approach to the classical problem. The algorithm description, theorems and their proofs are given showing that the algorithm satisfies the criteria of computational optimality ...

Keywords: code motion, common subexpressions, data flow analysis, partial redundancy elimination

6 Incremental global reoptimization of programs

Lori L. Pollock, Mary Lou Soffa

April 1992 ACM Transactions on Programming Languages and Systems (TOPLAS)

Full text available:  pdf(1.88 MB)

Additional Information: full citation, abstract, references, citation

Although optimizing compilers have been quite successful in producing excellent code, the usefulness of these compilers is limited by the accompanying long compilation times and the lack of good incremental optimization. One approach to attaining faster recompilations is to reduce the redundant analysis required in response to edits, and in particular, small maintenance changes, without affecting the correctness of the program. Although modular program ...

Keywords: compiler optimization, incremental data flow analysis, incremental global reoptimization

7 Deleting Repeated Goals in the Problem Reduction Format

D. W. Loveland, C. R. Reddy

October 1981 **Journal of the ACM (JACM)**, Volume 28 Issue 4

Full text available:  pdf(1.05 MB) Additional Information: full citation, references, citings, index terms

8 Extended ephemeral logging: log storage management for applications with

John S. Keen, William J. Dally

March 1997 **ACM Transactions on Database Systems (TODS)**, Volume 22 Issue

Full text available:  pdf(566.34 KB) Additional Information: full citation, references, index term

Keywords: OLTP, disk management, logging, long transactions

9 A Completeness Theorem for Straight-Line Programs with Structured Variables

Christoph M. Hoffmann, Lawrence H. Landweber

January 1976 **Journal of the ACM (JACM)**, Volume 23 Issue 1

Full text available:  pdf(1.23 MB) Additional Information: full citation, abstract, references,

A program scheme which models straight-line code admitting structured variables is considered. A set of expressions is associated with a program reflecting the invariants of the program. A set of axioms is given and program equivalence is defined in terms of expression equivalence. A notion of equivalence is then defined such that two programs are equivalent if and only if one can be transformed into the other by a sequence of program transformations. An application of the theorem is given to the equivalence of two programs in a simple programming language.

10 XML access control: Access control of XML documents considering update

Chung-Hwan Lim, Seog Park, Sang H. Son

October 2003 **Proceedings of the 2003 ACM workshop on XML security**

Full text available:  pdf(298.78 KB) Additional Information: full citation, abstract, references, citings, index terms

As a large quantity of information is presented in XML format on the Web, the security of XML documents is an important issue. Until now, research on XML security has been focused on the security of XML documents, such as XML signatures or encryption technologies. As XML is also used for a data representation language, XML access control should involve not only communication security but also managerial security. Managerial security is concerned with access control, but existing XML access control mechanisms have been limited to communication security.

Keywords: XML document, XML update, access control

11 TID—a translation invariant data structure for storing images

David S. Scott, S. Sitharama Iyengar

May 1986

Communications of the ACM, Volume 29 Issue 5

Full text available:  pdf(1.17 MB)

Additional Information: full citation, abstract, references, citin

There are a number of techniques for representing pictorial information, among them quadtree structures. Quadtrees are often used to store black and white picture information. A variety of methods have been proposed for improving quadtrees, including linear quadtrees, QMATS (quadtree medial axis transforms), and various hierarchical methods. The major purpose of these improvements is to reduce the storage required without losing too much information. All of these methods ...

12 Status report of the graphic standards planning committee

Computer Graphics staff

August 1979 ACM SIGGRAPH Computer Graphics, Volume 13 Issue 3

Full text available:  pdf(15.01 MB) Additional Information: full citation, references, citings

13 Finite Differencing of Computable Expressions

Robert Paige, Shaye Koenig

July 1982 ACM Transactions on Programming Languages and Systems (TOPLAS), Volume 4 Issue 3

Full text available:  pdf(2.68 MB)

Additional Information: full citation, references, citings, index terms

14 Heraclitus: elevating deltas to be first-class citizens in a database program

Shahram Ghandeharizadeh, Richard Hull, Dean Jacobs

September 1996

ACM Transactions on Database Systems (TODS), Volume 22 Issue 3

Full text available:  pdf(3.76 MB)

Additional Information: full citation, abstract, references, citin

Traditional database systems provide a user with the ability to query and manipulate the current database state. However, in several emerging applications, the ability to reason about the state of the database is required in order to reason about the impact of an update (before committing it to the database). Example applications include hypothetical database access, active database management, and distributed database management, to name a few. The central th ...

Keywords: active databases, deltas, execution model for rule application, hypothetical state

15 Concurrency Control in Distributed Database Systems

Philip A. Bernstein, Nathan Goodman

June 1981 ACM Computing Surveys (CSUR), Volume 13 Issue 2

Full text available:  pdf(3.24 MB) Additional Information: full citation, references, citings, index terms

16 Performance Workload Char. and Adaptation: Aliasing on the world wide w implications

Terence Kelly, Jeffrey Mogul

May 2002 Proceedings of the eleventh international conference on World Wid

Full text available:  pdf(376.28 KB)

Additional Information: full citation, abstract, reference

Aliasing occurs in Web transactions when requests containing different URLs e payloads. Conventional caches associate stored data with URLs and can there to aliasing and other causes. Existing research literature, however, says little user-initiated transactions, or about redundant payload transfers in conventio quantifies the extent of aliasin ...

Keywords: DTD, HTTP, WWW, Zipf's law, aliasing, cache hierarchies, caching, detection, hypertext transfer protocol, performance analysis, redundant trans

17 Gross motion planning—a survey

Yong K. Hwang, Narendra Ahuja

September 1992 ACM Computing Surveys (CSUR), Volume 24 Issue 3

Full text available:  pdf(6.40 MB)

Additional Information: full citation, abstract, references, citin

Motion planning is one of the most important areas of robotics research. The has hindered the development of practical algorithms. This paper surveys the motion planners for point robots, rigid robots, and manipulators in stationary, movable-object environments. The general issues in motion planning are exp performances are briefly described, a ...

Keywords: collision detection, computational geometry, implementation, moti planning, spatial representation

18 DIB—a distributed implementation of backtracking

Raphael Finkel, Udi Manber

March 1987 ACM Transactions on Programming Languages and Systems (TOPLA

Full text available:  pdf(1.66 MB)

Additional Information: full citation, abstract, references, citin

DIB is a general-purpose package that allows a wide range of applications suc bound, and alpha-beta search to be implemented on a multicomputer. It is ve needs to specify only the root of the recursion tree, the computation to be pe children at each node. In addition, the application program may optionally sp nodes from their children's va ...

19 Query processing techniques for arrays

Arunprasad P. Marathe, Kenneth Salem

August 2002 The VLDB Journal — The International Journal on Very Large

Full text available:  pdf(322.53 KB)

Additional Information: full citation, abstract

Arrays are a common and important class of data. At present, database systems arrays can neither be easily defined nor conveniently manipulated. Further, a paper describes a language called the *Array Manipulation Language* (AML), for a collection of optimization techniques for AML expressions. In the AML framework, externally-defined functions ...

Keywords: Array manipulation language, Array query optimization, Declarative optimization, Pipelined evaluation, User-defined functions

20 Asynchronous scheduling of redundant disk arrays

Peter Sanders

July 2000 Proceedings of the twelfth annual ACM symposium on Parallel algorithms and architectures

Full text available:  pdf(161.35 KB)

Additional Information: full citation, abstract, reference

Random redundant allocation of data to parallel disk arrays can be exploited to algorithms are proposed which improve the previously known shortest queue scheduling decisions can be deferred until a block access is actually started and generalized for coding schemes with low redundancy. Using extensive experiments measured which have so far eluded ...

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